

REMARKS

Applicants have canceled the pending claims 1-5 and 72-81 without prejudice or disclaimer. Applicants have added Claims 82-86, which are copies or are substantially similar to claims in pending application serial number 09/896,821 which is currently pending before Examiner Mital B. Pitel. Applicants believe that the newly presented claims are supported by Applicants' specification (as discussed in further detail below). Applicants request that an interference be declared between application serial number 09/896,821 and the present application.

Specific support for the newly presented claims can be found in applicant's specification as follows. Applicants will make reference to various portions of the specification and drawings as examples of where support for the claims is provided. Applicants wish to note that other portions of the specification may also provide support for the claims.

All of the claims recite some type of inlet or inlet means for supplying a gas. The embodiments in the specification have an inlet 124 (page 7, line 27). All of the claims recite some type of humidification device having various characteristics. Applicant's specification recites various options for humidification, at least one of which discloses the various characteristics recited in the new claims:

- The humidification material or device is in fluid communication with the inlet. For example, pads 130, 131, and 132 are in fluid communication with inlet 124.
- The humidification material readily absorbs moisture and readily releases moisture when exposed to a dry environment. The humidification material is "comprised of one or more layers of liquid-retaining or absorbing padding or sponge material . . ." (page 8, lines 3-8). One example is a rayon/polyester formed fabric (page 8, lines 8-11).
- The humidification material is placed within a shell that is not made of a material that readily absorbs moisture and readily releases moisture when exposed to a dry environment. Housing 122 defines a chamber for heating and humidifying gas (page 7, lines 27-30 and page 8, lines 1-2). If the material were not as described, the device would not function properly.
- The humidification material may surround the heater (page 8, lines 24-26).

- There can be a second humidification material spaced from the humidification material. See Figure 2, where humidification material 132 is spaced from humidification materials 130 and 131.
- The humidification material has a configuration that generates turbulence for a gas that should pass over a surface of said humidification material. The claim is not limited to any particular surface and turbulence occurs in the inner surfaces of humidification materials 130 and 131, for example. However, turbulence is also caused by the gas exiting and passing over the surface of humidification material 130 (which can be porous) at numerous different angles and then having to pass over the surface (which can be porous) of humidification material 131 to enter that material at numerous different angles. Turbulence will also be caused as gas enters the chamber and has to change direction rapidly to enter various pores of humidification material 130.
- The humidification means may be “one or more layers” (page 8, lines 4-6, Figure 2). For the same reason, the humidification material can also be the sole humidification material of the gas humidification apparatus.

Several claims recite a temperature sensor for measuring a temperature of a gas (which may be non-ambient) that flows within said gas apparatus in an indirect manner. Temperature sensor 136 (as illustrated in Figure 2) may indirectly measure the temperature of the gas exiting through outlet 126. As the gas passes over sensor 136 before flowing through humidification material 132, the temperature of the outlet gas is indirectly sensed as the humidification provided by material 132 will cool the gas.

One claim recites “a heater housing comprising a heater and a plurality of openings.” Another claim recites a heater that generates heat via electricity, wherein said humidification device envelops said heater. One definition of housing is “something that covers protects or supports.” (American Heritage Dictionary, 2nd College Edition, 1991) In the embodiment illustrated in Figure 2, the humidification material 130 and 131 covers heater 134, thereby forming a housing (page 8, lines 24-26). The housing has a plurality of openings as humidification material 130 and 131 can be porous (page 8, lines 8-14). This humidification material, as illustrated in Figure 2 also envelops the heater (page 8, lines 20-26). The heater is

also in fluid communication with the inlet: “The heating element 134 heats the insufflation gas supplied through the inlet” (page 8, lines 26-29).

Some of the claims recite a shell with a configuration that generates turbulence in a gas or a turbulence means for generating turbulence. As noted above, the disclosed humidification material generates turbulence. In addition, however, in one embodiment (Figure 4), fluted surfaces 123 are provided to facilitate complete dispersion of the gas (page 13, lines 26-30). These surfaces cause dispersion by generating turbulence in the gas.

Some of the claims recite an outlet in fluid communication with the humidification device. Outlet 126 is in fluid communication with the humidification device (e.g. pads 130, 131 and/or 132). See Fig. 2, Fig. 4 and page 7, lines 24-30 through page 8, lines 1-2.

One claim recites a second inlet that transfers a fluid to the humidification material. Charging port 190 provides such a material. Thus, new Claims 82-86 are fully supported by the specification of the present application, and an interference with US Patent Application Serial No. 09/896,821 should be declared.

The Examiner has requested that for all newly presented claims, Applicants explain why the claims are patentable over Garrison, Dittmar, and Dey and/or a combination thereof. Applicants submit that all newly presented claims are identical or substantially similar to claims that have been allowed in US Patent Application Serial No. 09/896,821 (‘821). Applicants have requested that an interference be declared between their application and the ‘821 application. The issue fee has now been paid for this application, so time is of the essence. Applicants submit that the newly presented claims are patentable as the Patent Office has already determined. Should the Patent Office determine that these claims are not patentable, then the ‘821 application should be withdrawn from issue or, if issued, the Commissioner should order a re-examination.

With respect to Claim 82, it recites “a first humidification material” and a “second humidification material that is spaced from said first humidification material.” None of Garrison, Dittmar, or Dey discloses such a material. Garrison (Figure 16, columns 12-13), discloses a humidifier 140 but does not state anything about humidification material or the internal structure of the humidifier. Dittmar discloses a humidification cartridge 25 (Figure 1, columns 3-5) filled with material. Thus, Dittmar does not disclose a second humidification material that is spaced from other humidification material. Dey (Figure 1, page 9) discloses a single sponge for humidification. Thus, Dey does not disclose a second humidification material

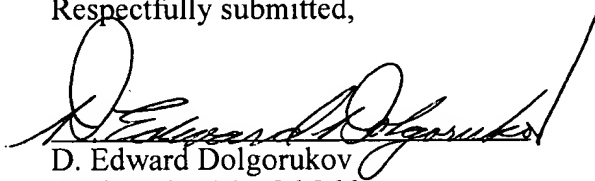
that is spaced from other humidification material. As none of the references disclose or suggest a second humidification material spaced from the first, a combination of the references (even if there were a suggestion to combine which there is not) would not result in the claimed combination.

With respect to Claims 83, 85 and 86, each claim recites a “temperature sensor” that measures temperature of a gas in an indirect manner. Garrison (Figure 16, columns 12-13) discloses a system where heating and humidification do not happen within the same apparatus and no details are provided that suggest that temperature is sensed indirectly. Garrison is effectively irrelevant to these claims due to the separate heating and humidification devices disclosed. Dittmar discloses direct temperature measurement (Figure 1, columns 4-5), “The air in hose 9 is kept at a constant temperature thanks to heat sensor 30 ...” (column 5, lines 3-4). Dey discloses (Figures 1-2, page 9) a heat exchanger with a cylindrical disk with a plurality of cylindrical passages. The disk is made of a material that is a good thermal conductor (thus it apparently acts as part of the heater). The specification states that “thermo-elements 14, 15 supply the measurement that are necessary to regulate the temperature.” The specification does not indicate that these temperature sensors are measuring the temperature of a gas in an indirect manner.

With regard to amended Claim 84, this is now dependent on Claim 83, which is allowable for the reasons indicated.

In view of the above amendments, and the remarks explanatory thereof, a favorable reconsideration of the present application, its allowance, and a declaration of interference with US Patent Application Serial No. 09/896,821 is courteously requested.

Respectfully submitted,



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